



4-1-2014

HRH Prince Dr. Faisal Mohamed Saudi Abdul Aziz
Saudi Ajwaa Environmental Technologies Est.
Riyadh
Kingdom of Saudi Arabia

Re: **Racehorse stables pre/post Path-Away® Anti-Pathogenic Solution treatment**

Prince Faisal

Please take note to the following: Surface samples were taken inside the horse stables. The purpose was to identify and quantify any potential harmful bacterium in which the animals may be exposed to, treat those areas with Path-Away® Anti-Pathogenic Solution, and re-test after treatment to verify the efficacy of the product.

Samples were analyzed by one of the USA's premier microbiology laboratory *EMLab P&K*, located in San Bruno, California. Two types of analysis were performed. One set of samples had an *E.coli*/coliform screen performed. The other set of samples were cultured for total number [and type] of bacteria present.

E.coli/Coliform screen: The coliform family of bacteria is universally present in large numbers in the feces (and intestinal tracts) of warm-blooded animals. While coliforms are themselves not normally causes of serious illness, they are easy to culture and their presence is used to indicate that other pathogenic organisms of fecal origin may be present. This is the reason why it is important to screen for not just coliforms, but more specifically *E.coli* for purposes of verification.

E.coli is a member of the coliform family. It is a specific indicator that confirms the presence of fecal related bacteria, and is a zero-tolerance species that warrants immediate removal.

E.coli is a "gram negative" bacteria (a reference to the structure of the bacteria's cell membrane), and more resistant to antibodies due to their solid protective walls. It is in the same category as other seriously harmful bacteria such as *Salmonella*, *Pseudomonas*, *Legionella*, etc. They can cause respiratory problems, as well as severe diarrhea and inflammation of the intestines, known as gastroenteritis. In addition to the infectious disease risk, gram-negative bacteria contain harmful endotoxins that can be inhaled when dried out, disturbed, and aerosolized.

Coliform bacteria was identified as well as the presence of *E.coli* in the stables. **Following the surface treatment with Path-Away® Anti-Pathogenic Solution, re-sampling in the same location yielded no presence of coliform bacteria or *E.coli*.**

Cultured samples results:

Results are recorded as CFUs (colony forming units). Their numerical values are displayed as both the estimated number of *living/viable colonies* of bacteria, and “CFU/unit” (colony forming units per unit of measurement); this is the extrapolated estimation of how many actual units of bacteria would be wholly represented in the area tested. Each listed sample will show its numbers before using Path-Away® Anti-Pathogenic Solution (pre-treatment), and after using Path-Away® Anti-Pathogenic Solution (post treatment).

**Note: The symbol “>” means “greater than”; the symbol “<” means “less than”.*

Horse stall:

1. Pre-treatment: > 300 viable/living colonies; >30,000,000 CFU/unit.
2. Post treatment: 1 colony detected; 10 CFU/unit

A pre-treatment figure of over 30 million CFU/unit to a post-treatment figure of 10 CFU/unit represents a 99.9999% reduction, following the application of Path-Away® Anti-Pathogenic Solution.

The type of bacteria identified in such high levels in this sample was “gram positive cocci.” This simply refers to Gram positive bacteria called “cocci” that are spherical in shape. They include *Streptococcus* (ear infections, “strep” throat”, rheumatic fever, etc.), *Staphylococcus* (a well known agent of infection), and *Enterococcus* (commonly associated with urinary tract infections). One form of *Staphylococcus* is commonly found growing on your skin; other forms include the strain *Staphylococcus aureus* which consist of the life threatening mutation known as MRSA (often referred to as “multidrug-resistant Staphylococcus aureus”).

Conclusion:

Test results validate the effectiveness of Path-Away® Anti-Pathogenic Solution as a surface disinfectant. Major reductions of 99.9999% to 100% of living, viable bacteria were observed in this sampling project.

The following pages include the official laboratory data.

Respectfully,

Kevin Martin

Kevin Martin
Vice President
GICC LLC.



Report for:

Mr. Arthur Martin, Mr. Kevin Martin
Global Infection Control Consultants LLC
23 Countryside Ct.
Bluffton, SC 29909

Regarding: Project: Horse Stable; Pre/Post Path Away
EML ID: 1185686

Approved by:

Technical Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:

Bacteria surface culture gram stain and counts: 03-29-2014

Service SOPs: Bacteria surface culture gram stain and counts (1040 & 1050)
AIHA-LAP, LLC accredited service, Lab ID #102856

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Global Infection Control Consultants LLC
 C/O: Mr. Arthur Martin, Mr. Kevin Martin
 Re: Horse Stable; Pre/Post Path Away

Date of Sampling: 03-18-2014
 Date of Receipt: 03-21-2014
 Date of Report: 04-01-2014

CULTURE BACTERIA REPORT

Lab ID-Version‡ Location Analysis Date	Sample Size/ Report Unit	Medium	Dilution Factor	Bacterial ID	Colony Counts	CFU/unit	%
5376074-1 SW-2 Stall before #2 Analysis date: 03/29/2014	Size: 1 swab Unit: 1 swab	TSA	100,000	Gram positive cocci	> 300	> 30,000,000 § Total: > 30,000,000	100 100
Comments:							
5376076-1 SW-4 Stall after #2 Analysis date: 03/29/2014	Size: 1 swab Unit: 1 swab	TSA	10	Gram positive cocci	1	10 § Total: 10	100 100
Comments:							

The limit of detection is a raw count of 1 at the lowest dilution plated. The analytical sensitivity is equal to 1 raw count/reporting unit x the dilution factor.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total has been rounded to two significant figures to reflect analytical precision.



Report for:

Mr. Arthur Martin, Mr. Kevin Martin
Global Infection Control Consultants LLC
23 Countryside Ct.
Bluffton, SC 29909

Regarding: Project: Horse Stable; Pre/Post Path Away
EML ID: 1185686

Approved by:

Technical Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:

Total Coliform, E. coli-P/A: 03-24-2014

Service SOPs: Total Coliform, E. coli-P/A (100125/86-001(CL))

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

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Client: Global Infection Control Consultants LLC
 C/O: Mr. Arthur Martin, Mr. Kevin Martin
 Re: Horse Stable; Pre/Post Path Away

Date of Sampling: 03-18-2014
 Date of Receipt: 03-21-2014
 Date of Report: 03-24-2014

COLIFORM WITH *E. COLI* SCREEN*

Location:	SW-1: Stall before #1	SW-3: Stall after #1
Comments (see below)	None	None
Lab ID-Version‡:	5376073-1	5376075-1
Sample type:	Swab sample	Swab sample
Setup Time:	03/21/14 13:30	03/21/14 13:30
Total Coliforms	Present	Absent
<i>E. coli</i>	Present	Absent

Comments:

* Reported as presence or absence of coliforms and of *Escherichia coli* (*E. coli*) determined by MUG (4-methylumbelliferyl-B-D-glucuronide) test. "Coliforms" is a term that refers to the fermentative Gram negative rods belonging to the Enterobacteriaceae family. Fecal coliforms previously referred to one member of this family, *E. coli*, which is a common organism in the human intestinal tract. More recently, fecal coliforms have been defined as "thermotolerant coliforms" and include all coliforms which grow and ferment lactose with gas and acid at 44.5 ± 0.2°C. This definition includes *Klebsiella*. However, since *Klebsiella* has been isolated from environmental samples in the apparent absence of fecal pollution, *E. coli* is a more specific indicator organism for sewage spills. Non-fecal coliforms are widely distributed in nature and are free living in water, soil, and on plants. Thus, the presence of small numbers of environmental coliforms should not be considered abnormal or of any particular concern for human safety.

Based on samples delivered. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect results. EMLab P&K hereby disclaims any liability for indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken in reliance upon, this report; and its actual direct damages arising out of the use or interpretation of the data contained in, or any actions or omitted taken in reliance upon, this report shall be limited to the cost of this report.

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Horse Stables



Exterior of the stables. Open air ventilation.



Center drain down length of stable where water accumulates



Typical stall with bedding of shavings



Open ventilation allows water to run down interior walls. A simple metal awning would prevent this. The bird nest needs to go Bird droppings are a source of highly toxic bacteria that can affect the horses.